

### **REMARKS**

The present amendment is submitted in response to the Office Action mailed November 30, 2007. Claims 1-18 are currently pending in the application. No new matter or issues are believed to be introduced by this amendment. In view of the amendments above and the remarks to follow, reconsideration and allowance of this application are respectfully requested. Claims 3 and 12 have been amended for clarity and Claim 12 has been additionally amended to distinguish over the cited art.

### ***Allowed Claims***

Applicant wishes to thank the Examiner for indicating that claims 1-11, 13 and 15-18 are allowable and that Claim 14 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **35 U.S.C. §102(e)**

Claim 12 was rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,163,477 issued to Tran.

With regard to Claim 12, in making the rejection, the Examiner contends that Tran discloses in FIG. 1, an MRAM device [8] including an array [10] of memory cells [12], a write circuit for supplying current  $I_x$  and  $I_y$  to the word and bit lines to the word and bit lines [14] and [16] during the write operation. The Examiner further contends that Tran discloses in FIG. 7 a magnetic field bias [H<sub>b</sub>] may be applied by an electromagnet [102] positioned over most or all of an MRAM device [100]. The electromagnet [102] includes a film [104] and a coil [106] wrapped around the coil [104]. Increasing the number of windings of the coil [106] will increase the magnetic field bias [H<sub>b</sub>] applied to the memory cells [12] of the MRAM device [100]. The Examiner further contends that Tran shows in FIG. 7 that the bottom side of the electromagnet [100] would be considered as the claimed programming surface, and the top side of the MRAM device [100] would be considered as the claimed information plane.

In response, Claim 12 has been amended to distinguish over Tran. In particular, claim 12 now clearly recites that the programming surface belongs to an external writing device and **not the memory device**, as previously claimed. In accordance with the method of the invention, the programming surface of the external writing device is aligned over an information plane of the memory device to be programmed (i.e., two separate devices). This is in contrast to Tran, which discloses a single MRAM device allegedly including both the programming surface and claimed information plane, i.e., on top and bottom surfaces.

In addition to disclosing a single device (i.e., MRAM) as opposed to an external writing device and memory device, as recited in claim 12, Tran does not appear to disclose, suggest or provide motivation for other limitations set forth in Claim 12. In particular, it is respectfully submitted that the magnetic field bias [H<sub>b</sub>] disclosed in Fig. 7 of Tran **does not serve to program the memory cells**, as recited in claim 12, but merely increases the reproducibility of switching. Hence, it therefore follows that Tran cannot teach field generator elements aligned over an information plane to magnetize the electromagnetic material at the bit locations of the memory device, as recited in claim 12.

Tran states at Col. 4, lines 45-50: *In the alternative, a magnetic field bias  $H_b$  may be applied to the memory cell 12. The magnetic field bias  $H_{sub.b}$  alone does not cause the memory cell 12 to switch. However, the magnetic field bias  $H_{sub.b}$  forces the magnetic field  $H$  to rotate consistently in the same quadrant, along a single path. Thus, applying the magnetic field bias  $H_{sub.b}$  increases the reproducibility of switching.*

Support for the amendment to claim 12, supra, which now recites that programming surface for programming the information plane is an element of an external device (i.e., an external writing device) and is therefore not an element of the memory device, can be found throughout the specification and in particular at paragraph 27, wherein it states:

[0027] The programming of the memory has been done by applying external magnetic fields, e.g. at the end of the IC-production. **The information plane 14 is programmed via a separate magnetic writing device before encapsulating the memory device 12 in the housing 11.** Thereto the die (at an intermediate state of its production) is positioned at a programming interface of a separate magnetic writing device. The programming interface has an array of field generators that generate a specific magnetic field at each bit location in the information plane. The field is strong enough to set the magnetic state of the material at the bit location to a specific value. The positioning includes aligning the magnetic field generators opposite the bit cells of the memory device. In an embodiment of the programming step during manufacture the positing is controlled by reading a signal from bit cells of the memory device, for example by verifying the signal against the data to be programmed. [Emphasis Added]

Accordingly, it is believed that Applicant's Claim 12 recites patentable subject matter, and therefore, withdrawal of the rejections with respect to Claim 12 and allowance thereof is respectfully requested.

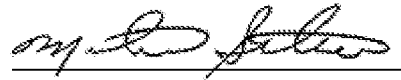
Claim 14 depends from Claim 12 and therefore include the limitations of Claim 12. Accordingly, for the same reasons given above for Claim 12, Claim 14 is believed to contain patentable subject matter. Accordingly, withdrawal of the rejection with respect to Claim 14 and allowance thereof is respectfully requested.

### **Conclusion**

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-18 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Mike Belk, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-945-6000.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael A. Scaturro", is written over a horizontal line.

Michael A. Scaturro  
Reg. No. 51,356  
Attorney for Applicant

**Mailing Address:**  
**Intellectual Property Counsel**  
**Philips Electronics North America Corp.**  
**P.O. Box 3001**  
**345 Scarborough Road**  
**Briarcliff Manor, New York 10510-8001**